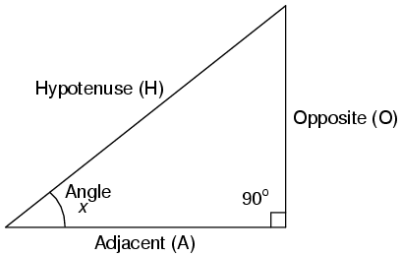
90^0 Triangles

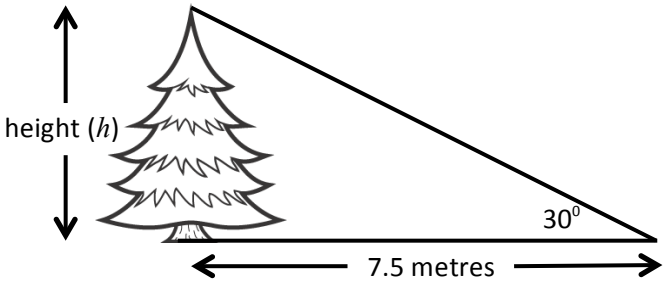
The diagram to the right shows how the sides in a right-angled triangle are named in relation to the angle marked as x.

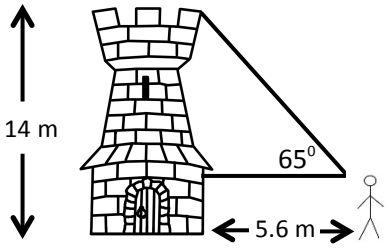


1. Look back at the three different ratios you calculated for the 30-60-90 and 25-65-90 triangles. How would you **describe** these ratios in terms of the names given above? What **conjecture** can you make for **each type of triangle**?

Using what you have found out so far about 30-60-90 and 25-65-90 triangles solve the following problems given below. Copy the diagrams into your work book and show your method…ONLY use your calculator/computer/phone to perform multiplication/division…NOTHING else…!

2. From a point 7.5 metres away from the base of a tree the angle of elevation to the top of the tree shown was found to be 30^0. Calculate the height of the tree.





3. From where stickman is standing he can see the top of the tower at an angle of elevation of 65^0. Stickman is standing 5.6 metres away from the base of the tower and the height of the tower is 14 metres. How tall is stickman?

4. A ladder of length 4.5 metres is leaning against a wall. If the ladder is at an angle of 60^0 to the ground, how high up the wall will the ladder rest?